DOCUMENT RESUME

ED 120 249 88 TM 005 211

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TITLE Junior-Senior High Tutor/Aide Program at Malcolm X Elementary School, ESEA Title III Evaluation. Final Report.
INSTITUTION District of Columbia Public Schools, Washington, D.C. Dept. of Research and Evaluation.
PUB DATE Aug 75
NOTE 39p.; Best copy available

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage
DESCRIPTORS Disadvantaged Youth; Elementary Education; *Elementary Schools; *Formative Evaluation; *High School Students; Interpersonal Relationship; *Junior High School Students; Mathematics; *Peer Teaching; Questionnaires; Reading; Student Evaluation; Teacher Aides; Tutors
IDENTIFIERS District of Columbia; Elementary Secondary Education Act Title III; ESEA Title III; *Malcolm X Elementary School

ABSTRACT

This project proposes to select, train, and utilize junior and senior high school students from neighboring schools as tutors for their young peers and as aides to the instructional team. Projected results of the program are that tutees will improve skills in reading, math, and special interests; that there will be an increase in individualized instruction and specific assistance to the tutees; that self-image and self-concepts of tutor/aides and tutees will increase; and that there will be improvements in the teaching/learning environment. Since this evaluation comes at mid-point of a projected two-year project, major emphases of this evaluation focuses on the effectiveness of the program in the meeting the projected goals at mid-point and abstracting from the first year's experience that essential information needed for planning and decision making during the second project year. The evaluation methodology is discussed and results indicate: the project is on the way to meeting the goals, internal documentation is more than adequate, teachers indicate a positive effect on the instructional program, administration and management is sound, tutor/aides express satisfaction with roles, all students show an increase in reading and math skills, and teachers and tutor/aides are fairly congruent in their perceptions of the project. (RC)

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Public Schools Of The Distric Of Columbia

Junior-Senior High Tutor/Aide Program At Malcolm X Elementary School

Final Report

ESEA Title III Evaluation

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Division of Research and Evaluation

August, 1975

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Final Report

Junior-Senior High Tutor/Aide Program At Malcolm X Elementary School An ESEA Title III Project

Public Schools of The
District of Columbia

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I. EXECUTIVE SUMMARY

A. INTRODUCTION AND BACKGROUND

Under the Elementary and Secondary Education Act, Title III Programs are developed and operated by local school systems. The Title III Program is designed to encourage school systems to develop imaginative solutions to educational problems; to more effectively utilize research findings; and to create, design and make intelligent use of supplementary centers and services. Primary objectives are to translate the latest knowledge about teaching and learning into widespread educational practice and to create an awareness of new programs and services of high quality that can be incorporated in school programs. Therefore, Title III seeks to (1) encourage the development of innovations, (2) demonstrate worthwhile innovations in educational practice through exemplary programs, and (3) supplement existing programs and facilities. The heart of the Title III Program is in these provisions for bringing a creative force to the improvement of schools and for demonstrating that better practices can be applied. Since the innovative and exemplary programs supported by Title III are intended to contribute substantially to educational improvement, priority in funding is given to those projects which offers the greatest promise of advancing education and solving persistent problems.

B. PROJECT DESCRIPTION

The organization of an effective educational team in open-space schools is causing many problems for educational administrators, teachers, and students. One strategy/approach to the solution of these problems has been the increased use of paraprofessionals and tutors in organic roles and functions within the instructional program.

Such an approach is proposed in the Junior-Senior High Tutor/Aide Project, an Esea Title III program, which is an integral part of the instructional program at the Malcolm X Elementary School in the District of Columbia. Specifically, the project proposes to select, train, and utilize junior and senior high school students from neighboring schools as tutors for their younger peers and as aides to the instructional team. The projected results are the following:

(a) Tutees will improve their skills in reading math, and special interests

(b) An increase in individualized instruction and specific assistance to the tutees

(c) An increase in self-image and self-concepts on the part of tutor/aides and tutees

(d) Improvements in the teaching/learning environment.

Since this evaluation comes at the mid-point of a projected two-year project, major emphasis of the evaluative process shall focus on the following areas:

(1) Effectiveness of program in meeting the projected goals and objectives at the mid-point.

(2) Abstracting from the first years experience that essential information needed for planning and decision making during the second project year.

C. EVALUATION SCOPE AND OBJECTIVES

The Center for Advanced Studies, a nonprofit corporation, submitted a preliminary interim progress report which specified the intended scope of the evaluation plan. Implicit in this report were objectives which served to guide the subsequent evaluation efforts. Contacts with the school personnel in May, 1975 helped to bring into sharp perspective the Center's role in the evaluation of the Title III Program at Malcolm X Elementary School.

The data presented in this report were collected and analyzed for the purpose of evaluating the effects of the utilization of paraprofessionals in improving the educational program. In this regard, the major evaluation objectives which emerged follows:

(1) To review and analyze all pertinent project documentation for the purpose of identifying and constructing measurable objectives and,

(2) To determine the extent to which the project was successful in acheiving its measurable objectives and,

(3) To describe the levels and degrees of the expected (and unexpected) project outcomes and,

(4) To delineate the major variables which would be investigated, assessed, analyzed and their corresponding interdependent relationships with the overall project success and,

(5) To discern those project elements and characteristics which have the greatest implications for decision-making and,

(6) To provide a set of practical suggestions and recommendations designed to enhance the effectiveness of future project operations.

D. METHODOLOGY AND EVALUATION DESIGN

Evaluation is one of the most neglected aspects of programming in education. One of the most frequent problems is the total absence of crucial baseline data which describes the characteristics of the target clientele before an innovative educational program was implemented. Being cognizant of this problem, The Center for Advanced Studies formulated an evaluation design which reflects this concern.

There are many definitions for evaluation. In the context of the Center's perception of the evaluation of the Title III Project the following definition emerged:

> "evaluation is a systematic plan for collecting and analyzing reliable and valid information for the purpose of decision-making relative to making assessments as to the effectiveness of an educational program."

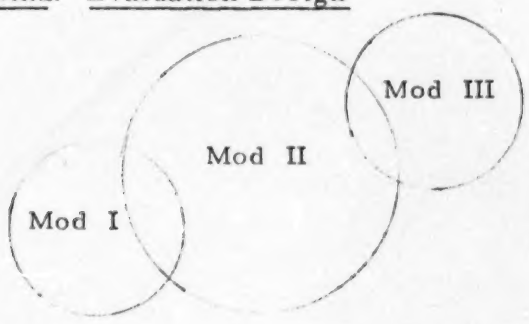
The evaluation design formulated for the Title III Project is simple in format but inclusive in regards to the major variables which are recommended to be observed and assessed. The design is based on the operational feasibility of three modules, as follows:

Module I Process
Module II Procedure
Module III Product

Figure 1 depicts and explains the evaluation schema. The design is intented to be very flexible as there is an interfacing and overlapping of the three modules.

Figure 1

Schema: Evaluation Design



Module I Process: Describes the major planning and implementations of the evaluation schema.

1. Planning
2. Implementation
3. Recyclying Decisions
4. Scheduling Events
5. Monitoring
6. Analysis

Module II Procedure: Describes the specific steps which will be carried out.

1. Related Research
2. Identify Program Objective and Approaches
3. Identify Target Clientele
4. Determine Major Variables
5. Determine Source of Data
6. Collect Data

Module III Product: Describes the significant findings and makes assessments as to the nature of the findings.

1. Delineate findings
2. Relate to program objectives and operational procedures
3. Identify unexpected outcomes
4. Analyze
5. Report

II. FINDINGS

In order to present the findings of this study in as straightforward a manner as possible, this section of the report concentrates on the major areas of the evaluation and their reasonably well-subsantiated conclusions. Much of the principal findings are summarized and displayed through illustrations, i.e. bar charts, tables, etc. Comments in the section point out highlights and extracts from narrative responses not suitable for tabular presentation. Technical details on interest to more specialized readers are included in the Appendixes section of this report.

A. ROLE FUNCTIONS AND INTERPERSONAL RELATIONSHIPS

Two major variables in the evaluation process were the role functions and interpersonal relationships. This refers to the activities which take place in the educational environment. The emphasis is on the roles and functions of the tutor/aides and their relationships to the tutees and teachers in carrying out their tasks. Emphasis is also placed on the tutor/aides ability to assist the teachers in the delivery of an effective educational program. The perceptions of the teachers and students, as well as the tutor/aides own perceptions of their role is a primary factor which we considered.

Role functions and interpersonal relationships within the

education setting should be viewed within the context of how they effect the delivery of instruction either positively or negatively. When viewed within this context it can be stated that the overall effect has been positive and rewarding for teachers, tutor/aides and tutees.

The foregoing conclusions have been substantiated by an investigation and analysis of the following indicators:

· Recruitment and Retention

The recruitment effort and rate of retention for the project has been very successful. In the area of recruitment there has been more applicants than the project needed.

The retention rate has been remarkable, only two tutor/aides have dropped out of this program since its inception.

· Training

The aides and teachers participated in a workshop in the summer of 1974 which included:

(a) A visit to the Advisory Learning Exchange and to the the Media Center to familarize themselves with various learning materials.

(b) Aides attended teachers' workshops.

(c) Aides worked together on the planning committee for the project.

· Teacher Evaluations of Tutor/Aides

The aides were evaluated by the teachers and project

coordinator through the use of "production sheets" which measure the nature of the work of the tutor/aides. This, the evaluators feel is a major plus because it keeps the evaluation within the context of the delivery of educational services and eliminates excessive subjectivity.

Self-Evaluation by Tutor/Aides

Self-evaluation was accomplished through two methods: (1) answering of open end questions such as "How do you feel about the progress you are making with your tutee?" or (2) group critiques of learning stations or other aspects of the tutor/tutee relationship. A survey of the results suggest a level of maturity on the part of the tutor/aides above what related studies have shown.

B. PROJECT DOCUMENTATION

The evaluators considered the project proposal as the major document from which to determine the nature and type of documentation which should be maintained for an effective monitoring of the project operations. The initial thrust of this evaluation focus involved discerning those statements from the proposal which have implications for operational procedures. The four major project objectives stated in the proposal were analized in terms of their measurability.

Sufficient documentation was available to support the operational

procedures necessary to monitor the accomplishment of these project objectives.

Since this is the mid-point evaluation of the project, emphasis is more on progress than on evaluation of a finished project. However it must be stated that the documentation of the project, although in raw form, is more than adequate.

C. PERCEPTIONS OF TEACHERS AND TUTOR/AIDES

This evaluation area refers to the ability to ascertain the level and congruence of the attitudes of the teachers and aides as reflected by an originally developed instrument. The instrument was designed to make a cursory investigation of the perceptions of the respondents. The central focus of the instrument content emphasized the significance of the utilization of aides in the project.

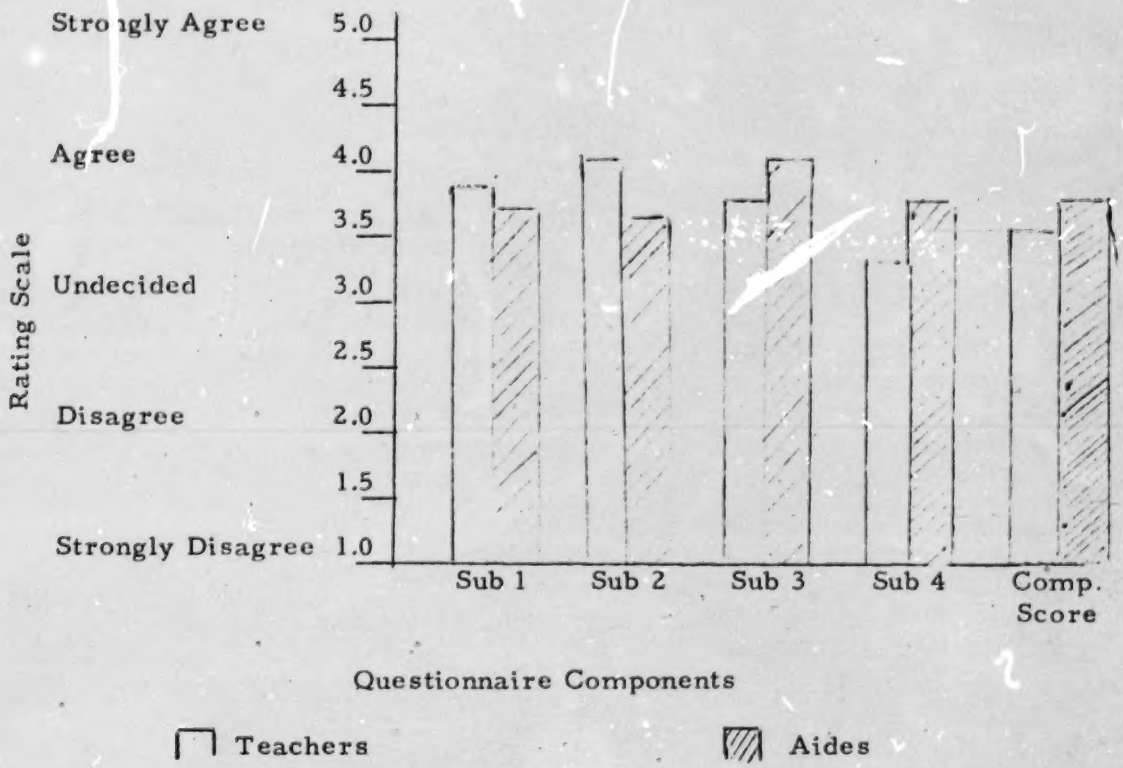
An original questionnaire was developed for the purpose of measuring the levels and degrees of the perceptions of the tutor/aides and teachers. The basis of the questionnaire construction was the contact with the tutor/aides, teachers and the proposal. The questionnaire developed was a 20 item summative rating scale. The calculations involved determining the mean score for each respondent (see Appendixes B, C). The mean score for the aides (as a group) and for teachers was compared to determine the level of congruence. On June 12, 1975 a total of 35 questionnaires were administered to teachers and

tutor/aides at Malcolm X. There were 13 teachers and 22 tutor/aides who responded (see Figure 2).

Figure 2 shows a wider difference of perceptions between teachers and tutor/aides on subparts 2 (role of teachers) and 4 (impact on students).

Figure 2

A Comparison Of The Congruence Of Perceptions Among Teachers And Aides As Reflected By The Questionnaire



Source: Calculations derived from Appendixes B and C

Table I

An Analysis Of The Mean Score Differences Between Teachers and Aides

Questionnaire Components	Teachers (X)	Aides (X)	Differences
Sub 1: Open Space Education	3.95	3.80	.15
Sub 2: Role of Teachers	4.13	3.63	.50*
Sub 3: Role of Aides	3.80	4.08	.28
Sub 4: Impact on Students	3.24	3.81	.57*
Composite Scores	3.78	3.83	.05

Source: Calculations derived from Appendixes B and C.

*See Appendix D for further analysis.

D. STUDENT ACHIEVEMENT

Criterion-reference tests are used in a system-wide testing program in the D. C. Public Schools. The Prescriptive Reading Test and the Prescriptive Math Test are used for grades one-six. Criterion-reference tests, unlike norm-reference tests, do not have a standardized grade level norm to which comparisons are made. Criterion-reference tests simply show whether a student has mastered specific skills. Individual students are evaluated according to their progress rather than comparing performance with a standard norm.

Since criterion-reference tests are not usually used for project evaluations, the evaluators decided to select a sample rather than analyze test results for the total population tested.

Testing at Malcolm X Elementary School was carried out in September, 1974 and April, 1975. Tables II through V display the results of both test and indicates the difference (either deficit, equilibrium or gain) for each skill.

TABLE II

PRESCRIPTIVE READING TEST: PERCENTAGE OF 4TH GRADE STUDENTS (N=) MASTERING EACH SKILL AND THE DIFFERENCE BETWEEN PRE AND POST TESTING

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Word Perception			
1. R-Controlled Vowels	91	89	- 2
2. Adjective Forms	21	27	+ 6
3. Syllabication	30	58	+28
4. Affixes/Inflections	65	74	+ 9
5. Silent Letters	26	29	+ 3
6. Context Clues	77	78	+ 3
7. Word Attack Skills	55	57	+ 2
8. Compound Words	17	27	+10
9. Accent/Like Consonants	47	43	- 4
10. Accent/Le Words	23	21	- 2
11. Accent Long Vowels	29	26	- 3
Comprehension and Interpretation			
1. Main Idea	33	30	- 3
2. Literal Meaning	24	27	+ 3
3. Relationships	38	50	+12
4. Compare/Contrast	44	40	- 4
5. Anticipates Outcome	55	67	+12
6. Conclusions	35	54	+19
7. Character Traits	45	48	+ 3
8. Real/Make-Believe	39	50	+11
9. Subtopics	39	52	+13
10. Key Words/Topic Sentence	29	25	- 4
11. Facts/Opinions	30	36	+ 6
12. Character Actions	38	40	+ 2
13. Compare Time/Place	39	44	+ 5
14. Mood	42	52	+10
Study - Reading			
1. Alphabetize 1, 2 letters	5	8	+ 3

Table II (Continued)

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Study - Reading (continued)			
2. Alphabetical Sequence	18	19	+ 1
3. Root Words	41	40	- 1
4. Multiple Meanings	17	20	+ 3
5. Tables of Contents	17	20	+ 3
6. Intermediate Directions	5	13	+ 8
7. One-Point Outline	33	32	- 1
8. Book Titles	47	45	- 2
9. Alphabetize/3 Letters	17	19	+ 2
10. Guide Words	15	9	- 6
11. Simple Charts	41	50	+ 9
12. Two-Point Outline	12	9	- 3

*(N=) Number of students taking test was not available.

TABLE III

PRESCRIPTIVE MATHEMATICS TEST: PERCENTAGE OF 4TH GRADE STUDENTS (N=) MASTERING EACH SKILL AND THE DIFFERENCE BETWEEN PRE AND POST TESTING

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Sets and Numbers			
1. Cardinality	16	13	- 3
2. Ordinal Numbers	25	31.	+ 6
3. Betweenness/Greater Than/ Less Than	22	28	+ 6
4. Even/Odd Numbers	13	23	+10
5. Numbers Divisible by 2,5, or 10	22	31	+ 9
6. Terms of a fraction	19	10	- 9
7. Fraction/Greater Than	5	4	- 1
8. Like Fractions	8	10	+ 2
9. Equivalent Fractions	8	10	+ 2
10. Equivalent Parts of a Whole - 10th's/100th's	44	55	+10
11. Identify 1/10, 1/100	14	20	+ 6
12. Name a Whole - 10th's/100th's	25	35	+10
OPerations and Their Properties			
1. Commut/Assoc. Prop./Zero as Ident. Element-Add	17	17	0
2. Commut/Assoc./Dist./One as Ident. Element-Mult.	6	12	+ 6
3. Add 3/More Addends	53	72	+19
4. Add 1, 2, 3, 4-Digit Numerals	50	57	+ 7
5. Subtraction-Inverse of addition	27	49	+22
6. Add through 10,000	34	38	+ 4
7. Subtract through 10,000	8	9	+ 1
8. Division - Inverse of Multiplication	39	54	+15
9. Multiply 2 or 3 digit by 1 digit	5	20	+15
10. Multiply by Multiple of 10/100	13	9	- 4
11. Multiply 2-digit by 2-digit	6	10	+ 4
12. Multiply 3-digit by 2-digit	8	7	- 1
13. Divide	19	20	+ 1
14. Fractional Part of Whole	13	12	- 1
15. Add Fractions/Like	3	13	+10
16. Subtract Fractions/Like	8	21	+13

Table III(Continued)

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Numeration			
1. Face 1 Place Value	5	2	- 3
2. Separating Numerals by Comma	16	23	+ 7
3. Numbers through Ten Thousands	27	33	+ 6
4. Powers of Ten	9	8	- 1
5. Renaming Numbers	5	13	+ 8
6. Rounding	28	26	- 2
7. Roman/Arabic Numerals	11	9	- 2
8. Roman Numerals - In Context	11	31	+20
9. Fractions/Names One	17	17	0
10. Fractions - Number Line	23	39	+16
Problem Solving			
1. Sufficient Information	38	33	- 5
2. Observations	6	17	+11
3. Identify Open Sentences	6	8	+ 2
4. Solve Open Sentences	17	40	+23
5. Solve the Problem	6	17	+11
Measurement			
1. Clock-Minutes	31	43	+12
2. Time - a.m./p.m.	41	52	+11
3. Time	8	17	+ 9
4. Date	9	26	+17
5. Add/Subtract Money	17	47	+30
6. Multiply Money	8	20	+12
7. Compare Liquid Measures	25	36	+11
8. Convert Measures	2	1	- 1
9. Compare Measures	28	45	+17
10. Add/Subtract Measures	6	4	- 2
11. Picture/Bargraph	16	39	+23
Geometric Concept			
1. Closed/Open Curves	34	44	+10

Table III (Continued)

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Geometric Concept (continued)			
2. Line/Line Segment	13	17	+ 4
3. Quadrilateral	3	6	+ 3
4. Ray	2	4	+ 2
5. Right Angle	14	6	- 8
6. Right Triangle	5	3	- 2

*Number of students taking test was not available.

TABLE IV

PRESCRIPTIVE READING TEST: PERCENTAGE OF 5TH GRADE STUDENTS* (N=) MASTERING EACH SKILL AND THE DIFFERENCE BETWEEN PRE AND POST TESTING

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Word Perception			
1. Word Attack Skills	73	85	+12
2. Compound Words/Pronunciation	22	23	+ 1
3. Accent/Like Consonants	59	53	- 6
4. Accent/Le Words	17	14	- 3
5. Accent/Long Vowels	25	37	+12
6. Accent/3-Syllable Words	30	25	- 5
7. Accent/Ending	56	59	+ 3
8. Schwa Vowe'	50	47	- 3
9. Phonetic Analysis	84	86	+ 2
Comprehension and Interpretation			
1. Main Topic	63	79	+16
2. Subtopics	41	55	+14
3. Key Words/Topic Sentences	69	69	0
4. Relevant/Irrelevant	13	33	+20
5. Summarize/Conclude	28	45	+17
6. Realism/Fantasy	48	61	+13
7. Facts/Opinions	27	31	+ 4
8. Character Actions	45	62	+13
9. Compare Information	39	51	+12
10. Compare Time/Place	72	78	+ 6
11. Pace and Mood	73	79	+ 6
12. Character Inferences	50	61	+11
13. Critical Reading	44	51	+ 7
Study - Reading			
1. Alphabetize/ 1, 2, 3 Letters	9	11	+ 2
2. Guide Words	9	8	- 1
3. Choose Meaning	48	54	+ 6

Table IV (Continued)

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Study - Reading (continued)			
4. Map/Color Shading	72	67	- 5
5. Interpreting Maps	53	55	+ 2
6. Simple Charts	36	37	- 1
7. Summary	63	73	+10
8. Two-Point Outline	30	38	+ 8
9. Outlines	42	63	+23
10. Pertinent Information	16	25	+ 9
11. Printed Directions	38	46	+ 8
12. Card Catalog	47	60	+13
13. Alphabetize/ 4 Letters	19	23	+ 4
14. Interpret Graphs	36	43	+ 7
15. Three-Point Outline	17	27	+10

*Number of students taking test was not available.

TABLE V

PRESCRIPTIVE MATHEMATICS TEST: PERCENTAGE OF 5TH GRADE STUDENTS (N=) MASTERING EACH SKILL AND THE DIFFERENCE BETWEEN PRE AND POST TESTING

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Sets and Numbers			
1. Multiples	16	34	+18
2. Common Multiples	6	21.	+15
3. L.C.M./Multiples	3	12	+ 9
4. L.C.M./2 Non-Multiples	11	16	+ 5
5. L.C.M./3 Non-Multiples	5	13	+ 8
6. Numbers divisible by 3,9	14	15	+ 1
7. Factors	3	15	+12
8. Greatest Common Factor	5	10	+ 5
9. Primes	0	5	+ 5
10. Primes/Composites	2	13	+11
11. Division as Fractions	0	7	+ 7
12. Fractional Values	3	7	+ 4
13. Like/Unlike Fractions	0	6	+ 6
Operations and Their Properities			
1. Add/Subtract Through 100,000's	3	18	+15
2. Multiplication	2	10	+ 8
3. Division	0	17	+17
4. Divide by Multiple of Ten	3	20	+17
5. Two-Digit Divisor	2	5	+ 3
6. Add Fractions	0	11	+11
7. Subtract Fractions	0	0	0
8. Add Fractions/Unlike	0	5	+ 5
9. Subtract Fractions/Unlike	0	4	+ 4
Systems of Numeration			
1. Face/Place Value	27	45	+18
2. Numbers Through Thousands	20	38	+18
3. Powers of Ten	27	39	+12
4. Renaming Numbers	3	11	+ 8
5. Rounding Off	0	3	+ 3

Table V (Continued)

Skills	%Mastered Pre-Test	% Mastered Post-Test	% Difference
Systems of Numeration (continued)			
6. Roman/Arabic Numerals	5	10	+ 5
7. Simplify Fractions	0	15	+15
8. Rename Fractions	9	11	+ 2
9. Fractions/Whole Numbers	2	4	+ 2
10. Naming Common Fractions	0	13	+13
11. One's Place/Decimals	8	11	+ 3
12. Tenth's Place/Decimals	25	50	+25
13. Fractions to Decimals	0	8	+ 8
Problem Solving			
1. Sufficient Information	23	31	+ 8
2. Operations	6	11	+ 5
3. Find the Average	0	0	0
4. Find Amount of Tax	0	6	+ 6
5. Solve Open Sentences	28	48	+20
6. Solve the Problem	11	22	+11
Measurement			
1. Hours	0	2	+ 2
2. Years	0	1	+ 1
3. Temperature	9	15	+ 6
4. Measurement Tables	5	11	+ 6
5. Convert Measures	0	1	+ 1
6. Stand. Unit to Rational No.	0	0	0
7. Add/Subtract Measures	0	1	+ 1
8. Fractional Part of Dollar	5	17	+12
9. Add/Subtract Money	16	28	+12
10. Multiply/Divide Money	0	10	+10
11. Line Graphs	5	15	+10
12. Perimeter/Polygons	6	19	+13
13. Perimeter/Rectangle	3	13	+10

Table V (Continued)

Skills	% Mastered Pre-Test	% Mastered Post-Test	% Difference
Geometric Concepts			
1. Parallel Lines	2	12	+10
2. Identify Parallelogram	5	9	+ 4
3. Classify Square	5	8	+ 3
4. Identify Triangles	0	5	+ 5
5. Circles and Related Terms	0	4	+ 4
6. Congruent Figures	3	18	+15
7. Classify Angles	0	4	+ 4
8. Identify Pyramid	6	13	+ 7

*Number of students taking test was not available.

III. CONCLUSIONS AND RECOMMENDATIONS

A. PROJECT CONSIDERATIONS

The following are the major conclusions which are directly related to the findings of the evaluation:

- Project is well on the way to meeting the four programmatic objectives.
- Internal documentation of the project is more than adequate.
- Teachers indicate that the use of tutor/aides has had a definite positive effect on the instructional program.
- Administration and management of the project is sound and facilitates the development of the project.
- Tutor/Aides express through their responses to self-evaluative instrument and through their work, a satisfaction with their roles and progress as tutor/aides.
- Both groups of students show an increase in their mastery of reading skills, and there is no appreciable disparity between them at this point in the project.

— Both experimental and control groups show an improvement from pre-test to post-test in their mastery of math skills, however there is no meaningful significance of difference between the two groups.

— Since this is a two year project, a measure of the significance of difference is in someways premature, except for second year program planning and decision making.

— Teachers and tutor/aides are fairly congruent in their perceptions of the project.

B. RECOMMENDATIONS

— Data from internal evaluation and assessments should be transformed from its raw, quantitative form to a more qualitative form.

— Project administrators should begin early to seek additional or optional funding should federal and public school monies be unavailable such as in the case of a related program at Bruce-Monroe Elementary School.

— Further attempts should be made to understand and measure the differences in perceptions held by teachers and tutor/aides on questionnaire items.

— More cooperative planning between project staff, teachers and tutor/aides.

— The program is off to a good start and could very well be a model for other such projects. Systematic documentation, especially audio-visual documentation might enhance this process.

C. FUTURE EVALUATIONS

The Title III Program, due to the breadth of its conception and the range of its impact, raises special problems of evaluations. There are at least three broad areas of concern which are implicit in the planning and evaluation of a Title III Program:

(1) The meeting of the school's manpower needs. Are new staff really needed? Does the addition of paraprofessionals infact free professionals' time? What do the professionals do with that time? What is the response of union organizations?

(2) The impact upon the school's total educational program. Are present activities extended? New ones added? Are they improved? How are children affected? For example, do children learn more (or better or faster)?

(3) The effect upon training and education of paraprofessionals. Are new opportunities available? Do schools and colleges have special programs of preparation? Are new curricula developed? Is credit offered for work, previous learning, life experience?

Of the areas noted above, it may be that causal relationships being

sought are too complex to be amenable to one-shot evaluation studies. As an alternative, it appears necessary to perform some limited but detailed research, combined with actual and ongoing program development and evaluation sustained and supported over a period of several years.

APPENDIXES

Appendix A

- Questionnaire -

Perceptions of Title III Teaching And Support Personnel

Instructions: Select your answer according to the scale shown below and place the number in the space to the left of each statement.

Scale:
1 = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree

I. Open Space Education

_____ 1. The Open Space Program is very appropriate and effective in meeting the educational needs of the children whom this school serves.

_____ 2. The Open Space Concept implies that there must be an exchange of students, aides and teachers in the instructional process.

_____ 3. The use of tutor/aides enables students to receive much more individual attention in the Open Space setting.

_____ 4. Students learn a great deal more in an Open Space school than in a regular school.

_____ 5. The Open Space school allows for the opportunity for each student to develop to their maximum capabilities.

II. Role of Teachers

_____ 1. All teachers should have special training in order to work effectively in an Open Space program.

_____ 2. The teacher's role changes drastically when there is an absence of aides to work in the program.

Appendix A (continued)

_____ 3. The teacher is the key in the continuous progress of improving the skills of the tutor/aides.

_____ 4. Teachers should be involved in the selection, placement, retention or dismissal of aides.

III. Role of Tutor/Aides

_____ 1. The addition of tutor/aides allows teachers much more time to devote to instructional matters.

_____ 2. The tutor/aides are very productive and creative - thus, they contribute significantly to the success of the program.

_____ 3. Since the tutor/aides represent the "grass roots" community, they can communicate with the children better than teachers.

_____ 4. The use of tutor/aides has served to strengthen community involvement and support for the school.

_____ 5. The number of learning stations has been increased because of the use of tutor/aides.

IV. Impact on Students

_____ 1. The children learn faster and more because of the use of tutor/aides in the Open Space program.

_____ 2. Student achievement is greatly increased because of the effectiveness of the aides.

_____ 3. Disciplinary problems are low because of the personal concern shown by the aides.

_____ 4. Student absences and tardiness is improved by the counseling and interest carried by the tutor/aides.

_____ 5. The addition of tutor/aides is significant in maintaining high student interest and motivation.

Appendix B

Questionnair Raw Data Calculation Table For Teachers (N=13)

Individual Mean Scores:

	Subparts				Composite
	X_1	X_2	X_3	X_4	X_5
	3.6	3.75	4.00	3.20	3.63
	4.20	3.25	2.40	1.00	2.71
	3.60	4.25	3.40	2.40	3.41
	4.20	4.25	4.00	4.00	4.11
	4.20	4.25	4.20	3.20	3.96
	3.80	5.00	3.80	3.20	3.95
	3.80	3.25	3.80	4.00	3.71
	4.40	4.75	4.20	3.20	4.13
	4.20	4.25	3.80	3.00	3.81
	4.40	4.50	4.80	4.60	4.57
	3.40	3.40	3.20	2.60	3.15
	5.00	4.70	4.80	4.80	4.82
	2.60	4.20	3.00	3.00	3.20
Totals	51.40	53.80	49.40	42.20	49.16
Group Means	3.95	4.13	3.80	3.24	3.78

Appendix C

Questionnaire Raw Data Calculation Table For Aides (N=22)

Individual Mean Scores:

Subparts				Composite
X_1	X_2	X_3	X_4	X_5
3.40	3.50	4.40	4.20	3.87
3.80	3.50	4.60	4.60	4.12
3.60	3.00	3.00	3.40	3.25
4.20	3.00	3.40	3.40	3.50
4.40	3.75	4.60	5.00	4.43
4.00	3.75	4.20	3.80	3.93
3.80	3.00	4.00	4.60	3.85
3.80	4.00	4.20	3.40	3.85
4.20	4.75	4.80	4.80	4.38
3.60	4.75	4.60	4.20	4.28
4.60	2.50	3.80	3.00	3.47
4.20	3.50	4.80	4.40	4.22
4.40	4.75	4.60	4.60	4.58
3.00	4.20	3.20	3.80	3.55
4.40	4.00	4.80	4.20	4.35
3.20	4.20	4.20	4.40	4.00
3.40	4.50	4.20	3.60	3.92
3.60	3.00	3.40	3.00	3.25
3.60	3.50	3.80	2.40	3.32
3.20	3.50	4.00	2.40	3.27
3.20	3.20	3.60	3.40	3.35
4.20	3.70	3.60	3.40	3.72
Totals 83.80	80.05	89.80	84.00	84.46
Group Means 3.80	3.63	4.08	3.81	3.83

Appendix D

Further Analysis Of Table I

Table 1 adds more quantitative specificity in explaining the differences in congruence for the two groups as reflected by their mean scores. Since it was established (Figure 2) that the aides as a group had higher mean scores than teachers, the quantitative difference was determined by subtracting mean scores of teachers from those of aides. Whereas [D = Differences; $\bar{X}_1$ = Aides; and $\bar{X}_2$ = Teachers] therefore:

$$D = \bar{X}_1 - \bar{X}_2$$

The composite scores represent an average of the four (Sub 1 - 4) mean scores and reflects the overall congruence of perceptions between the two groups. The composite score is greatly influenced by the extreme Sub score and should be understood in this regard. Whereas [C = Composite Scores; $\Sigma \bar{X}$ = Groups; n = Divisor] therefore:

$$C = \frac{\Sigma \bar{X}}{n}$$

The difference in the composite scores between both groups determined the overall congruence of perceptions. Again, the difference (.51) shown in the Table 1 is greatly influenced by the extreme scores in the distribution. Whereas [D = Difference; $\Sigma \bar{X}$ = Groups; n = Divisor] therefore:

$$D = \frac{\frac{\Sigma \bar{X}_1}{n} - \frac{\Sigma \bar{X}_2}{n}}{n}$$

In the final analysis, it appears more helpful to rely on the differences in each of the subparts, as opposed to heavy reliance of composite score differences. In this regard, further investigation is recommended for a more definitive analysis of the area reflected by Sub 2 and 4, where the greatest degree of incongruence are found.